TECHNICAL BRIEF

Message Mapping

Background

The Threat Consequence and Assessment Division (TCAD) of EPA's National Homeland Security Research Center (NHSRC) evaluates human health risks associated with the release of contaminants into the environment. TCAD also develops techniques and methods that will be of practical assistance to agencies and public service providers dealing with chemical, biological, and radiological contamination. In addition, it aids response leaders and decision makers in determining what level of risk people are exposed to, deciding what steps to take, and communicating their decisions to the public in a useful and reassuring way.

Risk Communication With Message Mapping

Message mapping is a science-based risk communication tool that enables members of the responder and environmental protection communities to quickly and concisely deliver the most pertinent information about an emergency. A sample handout that uses the message map approach to describe TCAD's rapid risk assessment process appears below.

TCAD is currently assisting responders and other stakeholders in developing message maps for terrorist threats and other disasters. The TCAD message mapping project has two objectives:

- to help stakeholders develop scientifically sound message maps for various possible high-stress situations
- to train scientists, first responders, public information officers, and others to use message mapping techniques in their communications during such incidents

To achieve these objectives, TCAD is sponsoring a series of workshops involving experts in various disciplines. The first two workshops, held in May 2004 and March 2005, focused on threats to drinking water. Message maps have been developed for seven scenarios affecting drinking water systems—for instance, insertion of a disease agent into the water, damage to the distribution infrastructure, and massive power failure.

Recent and upcoming workshops address message mapping for attacks on arenas, malls, schools, and office buildings, and for area decontamination, response, and recovery. The results of these workshops will also be used by other divisions of the NHSRC, such as the Decontamination and Consequence Management Division.

(more)

Planned Products

EPA will publish a report in 2006 on effective risk communication through message mapping techniques. The document will include message map templates for the seven drinking water scenarios. Reports with message maps for attacks on buildings and for decontamination will be issued after the remaining workshops have been held.

For more information, visit the NHSRC Web site at www.epa.gov/nhsrc.

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Sample Message Map / Brochure

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National Homeland Security Research Center
ADVANCING OUR NATION'S SECURITY THROUGH SCIENCE

What Is TCAD's Rapid Risk Assessment?

Rapid risk assessment is a process that quickly calculates potential harm to health and the environment.

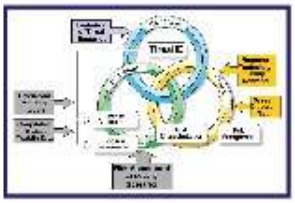
Your health risk is a combination of two factors: how severe a danger is and how likely it is that you will be exposed to it. TCAD's rapid risk assessment...

...determines the risks to your health.

To determine the likelihood of harm, TCAD's rapid risk assessment process uses data about:

- previous accidental and workplace exposure to toxic agents
- laboratory animal studies
- how illnesses have spread throughout human populations in the past

Computer models and the expert judgment of scientists are used to estimate risk.



...uses a systematic, scientific process to identify and calculate risk.

In 1983 the National Academy of Sciences defined the process for conducting a risk assessment.

Scientists inside and outside EPA have reviewed TCAD's rapid risk assessment process

All TCAD's rapid risk assessments are conducted according to approved guidelines.

...is fast

TCAD's rapid risk assessments are designed to give quick preliminary answers during emergencies.

Other EPA risk assessments can take several years to complete.

The risk assessments are continually improved as more information becomes available.